

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242649

Luminaire Tested: S124DRP-S575D930-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242649
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S575D930-X4F0-XX-UDD-A-W
Description: DEFINE 4 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

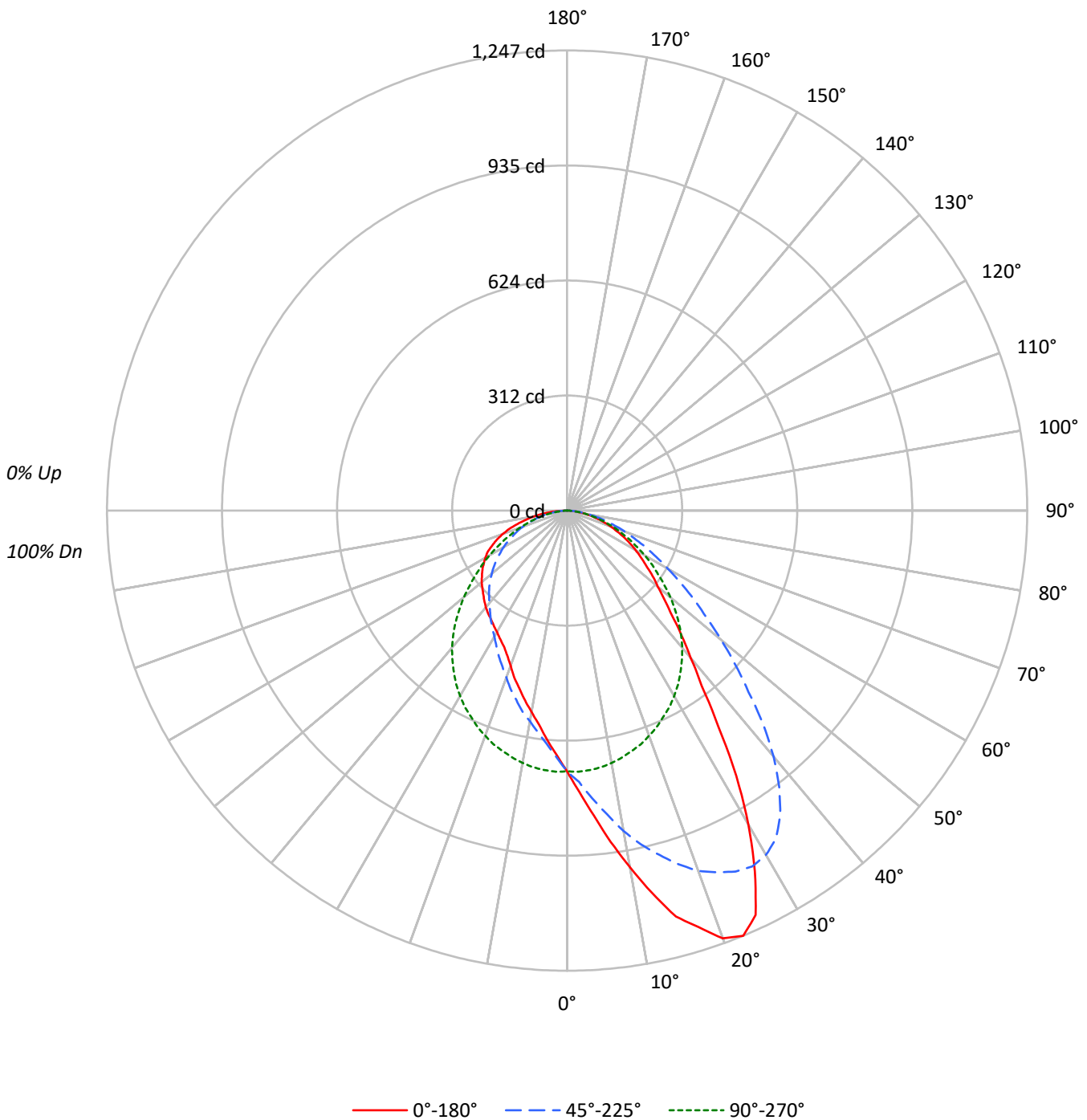
Lumens per Lamp: N/A
Luminaire Lumens: 1949.8 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62					62			
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46					46			
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	6281	6281	6281	6281	6281
5°	7396	6987	6297	5660	5558
10°	8855	7960	6269	5236	5004
15°	10478	8891	6206	4892	4596
20°	11668	9829	6141	4552	4231
25°	11857	10585	6046	4286	3979
30°	10089	11062	5954	4047	3899
35°	7757	10923	5807	3916	3900
40°	6046	10094	5631	3807	3974
45°	5041	8735	5369	3760	4040
50°	4436	7532	5047	3691	4178
55°	4065	6483	4663	3625	4345
60°	3810	5609	4318	3532	4548
65°	3546	4901	3933	3418	4716
70°	3241	4327	3553	3324	4824
75°	2895	3730	3125	3105	4764
80°	2426	3025	2565	2831	4617
85°	1795	2295	1846	2631	4416

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 9644 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.8	3.5
10°-20°	212.3	10.9
20°-30°	337.2	17.3
30°-40°	374.7	19.2
40°-50°	340.8	17.5
50°-60°	278.4	14.3
60°-70°	198.8	10.2
70°-80°	109.4	5.6
80°-90°	29.5	1.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	618.2	31.7
0°-40°	992.9	50.9
0°-60°	1612.1	82.7
0°-90°	1949.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1949.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	707	707	707	707	707	
5°	829	783	706	634	623	84
15°	1139	966	674	532	499	322
25°	1209	1079	616	437	406	536
35°	715	1007	535	361	359	452
45°	401	695	427	299	321	315
55°	262	418	301	234	280	237
65°	169	233	187	162	224	167
75°	84	109	91	90	139	90
85°	18	22	18	26	43	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6
2.5°	763.4	763.1	760.2	759.6	757.5	754.9	754.3	749.6	740.3	735.9	734.7
5°	828.9	834.8	827.2	825.7	824.8	815.2	810.2	804.4	790.9	783.0	776.8
7.5°	905.6	905.9	902.7	899.5	893.9	885.7	874.6	861.7	846.2	830.4	819.3
10°	981.1	983.5	979.7	979.1	964.2	954.8	936.1	920.3	902.1	881.9	863.5
12.5°	1060.8	1056.1	1054.6	1039.1	1039.4	1020.4	997.8	981.4	951.0	927.0	900.9
15°	1138.6	1132.2	1128.1	1110.8	1102.3	1078.6	1055.5	1037.6	1001.1	966.2	939.9
17.5°	1183.7	1191.6	1181.1	1174.0	1150.9	1135.4	1112.3	1075.7	1048.5	1005.1	975.0
20°	1233.5	1234.0	1228.8	1221.5	1204.2	1183.1	1157.4	1116.4	1082.1	1039.1	993.4
22.5°	1246.9	1246.9	1245.5	1238.7	1226.7	1210.6	1184.6	1152.1	1108.8	1061.1	1015.4
25°	1208.9	1207.7	1210.3	1217.9	1213.0	1207.7	1192.8	1167.3	1128.7	1079.2	1030.0
27.5°	1101.2	1108.8	1124.6	1143.3	1156.8	1168.8	1167.9	1157.1	1129.5	1086.8	1034.4
30°	982.9	992.9	1004.0	1022.7	1059.0	1079.8	1102.6	1119.9	1110.2	1077.7	1029.7
32.5°	852.9	853.5	871.4	893.3	925.8	970.6	1010.1	1049.6	1066.6	1053.4	1015.4
35°	714.8	718.9	736.7	757.8	798.5	847.4	901.8	950.4	990.5	1006.6	986.1
37.5°	598.9	611.8	625.2	649.2	686.4	730.6	789.1	849.7	908.6	944.3	948.1
40°	521.0	528.3	537.4	554.7	585.1	628.4	677.0	749.0	812.5	869.9	888.7
42.5°	459.5	463.1	467.7	483.0	504.3	547.4	590.7	651.9	715.7	787.1	821.6
45°	401.0	405.4	414.8	423.8	441.4	471.3	512.5	564.6	628.7	694.9	752.8
47.5°	357.1	360.0	365.9	375.8	391.6	411.8	447.0	491.2	553.8	617.9	680.0
50°	320.8	323.1	327.5	336.3	347.7	365.3	392.8	433.5	480.0	544.7	605.3
52.5°	292.1	292.7	295.6	300.9	309.4	323.4	344.8	376.7	419.2	475.1	535.4
55°	262.3	263.4	266.4	270.8	278.7	288.0	305.3	330.5	368.2	418.3	470.7
57.5°	237.7	238.8	241.2	242.9	250.0	257.9	271.9	290.1	319.6	364.1	411.8
60°	214.3	213.7	216.6	218.1	222.5	228.9	239.1	256.4	281.3	315.5	358.6
62.5°	191.4	190.6	192.9	194.9	197.0	202.3	210.2	222.7	241.8	271.9	307.6
65°	168.6	167.4	168.9	171.2	173.6	176.5	182.6	194.6	210.7	233.0	261.4
67.5°	145.2	146.6	146.6	148.1	149.6	153.7	158.1	167.4	178.8	197.0	222.2
70°	124.7	125.0	126.2	126.2	127.0	130.5	134.1	139.0	150.2	166.5	186.2
72.5°	104.2	105.7	104.8	106.0	106.5	108.6	110.9	115.6	124.7	135.8	151.6
75°	84.3	85.2	85.2	85.5	86.3	87.2	89.3	92.8	99.5	108.6	120.0
77.5°	65.0	65.0	65.6	66.7	66.7	68.2	70.0	72.6	76.4	83.1	90.4
80°	47.4	48.0	47.7	48.3	48.3	49.5	50.1	53.6	55.0	59.1	64.7
82.5°	31.6	32.2	32.2	33.1	33.7	33.7	34.5	35.4	36.9	40.4	41.9
85°	17.6	18.1	17.6	18.1	19.0	19.3	20.2	20.5	21.7	22.5	24.6
87.5°	6.4	7.3	7.3	7.6	8.2	8.5	8.8	8.5	9.7	10.0	11.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6
2.5°	735.0	730.9	728.0	725.6	719.2	715.4	712.4	708.3	703.7	698.7	692.5
5°	770.7	760.7	753.4	742.3	731.8	723.0	713.9	705.7	695.8	684.9	677.0
7.5°	807.3	793.5	775.1	760.7	743.5	728.5	715.4	701.6	687.0	672.9	659.8
10°	841.8	822.8	801.7	776.8	753.4	732.6	713.3	694.6	676.4	658.3	642.8
12.5°	879.0	854.1	820.5	790.3	763.4	733.8	709.5	685.5	662.7	643.4	624.6
15°	911.5	877.2	841.2	802.3	767.8	735.3	703.4	674.4	649.8	624.6	607.1
17.5°	932.0	889.5	850.9	810.2	770.4	729.7	696.6	664.1	633.7	609.1	587.2
20°	952.2	910.0	858.8	818.1	768.4	726.2	686.4	649.2	617.0	590.4	567.6
22.5°	969.7	919.4	868.2	811.4	761.9	716.5	672.1	634.6	601.5	573.1	551.5
25°	973.8	917.9	862.3	809.0	752.8	699.9	660.3	616.4	581.3	551.7	528.3
27.5°	975.3	916.2	854.4	796.4	738.5	690.2	638.7	600.3	564.0	532.7	510.5
30°	972.1	909.7	842.1	778.0	719.8	666.2	622.9	580.1	543.0	511.9	488.5
32.5°	961.8	896.3	826.3	757.5	696.6	644.5	599.5	559.4	523.4	492.9	468.0
35°	940.2	876.1	802.0	731.5	669.7	616.7	576.3	535.1	498.8	469.8	446.1
37.5°	911.2	851.5	776.3	702.8	643.4	589.5	548.8	510.8	478.0	448.1	423.5
40°	870.8	819.9	744.3	673.2	607.7	557.0	519.6	485.3	452.8	425.0	401.9
42.5°	824.3	781.5	713.3	636.9	574.3	523.4	487.1	457.2	427.1	401.9	378.8
45°	767.2	737.9	672.3	602.7	536.8	488.8	454.0	427.1	401.3	376.1	356.8
47.5°	703.7	687.3	630.2	563.5	500.2	452.2	422.1	396.3	372.9	351.0	333.7
50°	639.6	632.5	584.8	521.0	461.3	416.8	386.4	365.0	345.7	327.0	310.9
52.5°	576.3	577.8	535.9	478.9	424.7	382.3	352.1	332.5	316.4	302.1	288.0
55°	511.6	519.8	486.2	434.1	384.6	346.0	318.8	300.9	289.2	276.6	265.8
57.5°	452.2	466.0	436.7	389.0	347.1	310.3	286.3	272.5	259.6	251.4	242.9
60°	394.3	407.2	385.5	346.9	307.9	277.5	254.9	242.9	232.1	226.8	221.3
62.5°	342.8	353.9	339.2	304.1	271.6	242.7	224.5	213.1	206.6	200.8	197.6
65°	294.2	303.8	290.1	264.0	235.0	211.6	196.1	187.0	180.0	177.7	173.6
67.5°	246.2	254.9	247.6	224.8	200.2	181.8	169.5	159.8	155.7	153.4	150.7
70°	204.3	213.1	205.2	185.9	168.0	153.1	141.7	136.7	132.3	131.4	127.3
72.5°	168.9	174.2	166.3	152.2	137.6	125.6	117.4	112.1	110.3	108.6	106.8
75°	132.0	137.3	132.0	120.3	109.5	100.7	93.1	91.0	88.4	87.5	86.1
77.5°	98.9	103.9	99.8	91.9	83.4	76.1	71.7	68.8	68.5	66.7	67.3
80°	71.4	74.3	70.5	65.6	59.1	54.4	51.5	50.1	48.3	47.7	48.9
82.5°	46.2	47.1	45.7	42.7	38.3	35.7	34.0	32.2	32.2	32.5	32.2
85°	26.6	26.3	26.1	23.1	21.7	19.6	18.4	18.1	17.9	18.4	19.0
87.5°	11.1	11.4	11.1	10.0	9.1	8.2	7.9	7.6	7.9	8.2	8.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6	706.6
2.5°	689.6	687.0	683.2	677.9	673.5	668.8	667.7	665.9	669.4	666.5	665.6
5°	670.3	664.1	656.2	647.2	641.9	634.3	632.8	629.9	627.0	626.7	623.8
7.5°	650.1	641.6	631.7	622.3	614.1	605.9	600.6	600.0	595.4	593.0	590.1
10°	630.8	619.7	607.7	598.9	588.9	580.1	574.0	570.5	567.6	564.3	561.4
12.5°	607.9	595.9	586.6	576.9	564.6	558.5	547.4	540.6	540.6	541.5	532.7
15°	591.3	579.6	564.3	550.9	544.4	531.6	526.0	519.0	514.6	510.2	506.7
17.5°	570.8	556.4	544.7	529.5	517.5	507.8	500.2	496.4	489.4	483.0	478.6
20°	551.7	536.2	523.6	507.3	493.8	481.2	475.1	469.2	464.2	459.0	454.0
22.5°	532.4	516.0	499.9	484.1	471.8	458.4	452.5	444.0	439.4	437.0	432.0
25°	511.9	494.4	476.8	461.6	448.7	437.0	429.1	423.0	417.7	415.3	412.1
27.5°	489.7	472.4	455.7	438.2	423.3	414.8	408.3	403.3	400.1	396.6	395.2
30°	468.6	450.5	432.3	416.2	402.8	394.3	388.4	385.2	382.9	381.4	379.9
32.5°	447.3	429.4	410.1	395.7	384.0	376.7	372.6	369.4	368.5	368.2	367.9
35°	424.1	406.0	388.4	375.2	363.8	360.9	357.1	355.3	354.8	356.8	357.7
37.5°	401.9	384.9	368.5	355.3	347.7	343.1	341.6	341.3	343.3	345.1	347.1
40°	380.5	364.1	348.9	337.8	330.8	328.1	327.5	329.0	331.3	333.4	335.7
42.5°	359.7	343.6	330.2	319.9	315.5	313.2	313.8	315.2	318.8	321.4	325.2
45°	338.1	324.6	311.1	302.7	298.6	299.1	299.1	301.8	305.0	308.8	312.6
47.5°	317.9	304.1	292.7	285.4	283.3	282.5	283.9	287.4	291.8	296.2	301.5
50°	297.4	284.5	274.8	268.4	266.1	266.9	269.3	272.5	278.1	283.9	289.5
52.5°	276.6	265.2	256.4	250.6	249.1	250.8	253.2	258.8	263.4	269.9	276.9
55°	254.9	245.0	238.0	233.6	233.0	233.9	236.5	242.1	249.1	257.0	263.4
57.5°	233.6	225.1	218.4	215.1	215.4	216.0	220.1	226.8	233.9	242.4	250.6
60°	211.9	204.3	199.0	196.7	197.0	198.7	204.0	210.2	219.5	227.7	236.5
62.5°	191.4	185.0	180.0	178.0	177.4	181.8	186.7	193.2	202.6	211.9	221.6
65°	169.2	163.9	159.8	158.6	159.5	162.5	168.9	177.4	185.3	194.9	204.9
67.5°	147.5	143.1	140.2	140.8	141.7	145.8	151.3	158.6	167.4	177.4	187.6
70°	127.0	122.9	120.6	120.9	122.6	127.9	132.6	139.9	149.6	159.8	168.0
72.5°	106.0	103.6	101.6	103.0	104.8	108.0	114.2	121.5	129.7	139.0	147.8
75°	84.6	84.6	83.4	84.3	86.9	90.4	94.8	102.4	110.9	118.5	125.6
77.5°	66.4	65.6	66.2	67.0	68.8	73.2	78.2	83.7	90.4	98.3	104.2
80°	48.0	48.3	49.8	51.5	52.1	55.3	60.6	65.6	70.5	77.0	82.5
82.5°	33.1	33.4	34.0	36.3	36.9	40.4	43.3	48.3	52.7	56.5	60.9
85°	19.6	19.6	21.1	22.0	23.4	25.8	27.8	30.7	34.8	37.8	42.1
87.5°	9.4	9.4	10.5	11.1	12.0	13.5	14.0	17.3	18.4	19.9	22.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242649

CATALOG NUMBER: S124DRP-S575D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	706.6	706.6	706.6	706.6
2.5°	665.0	664.4	662.4	662.1
5°	622.0	620.5	619.7	622.9
7.5°	589.5	588.3	585.7	584.8
10°	558.5	557.3	555.0	554.4
12.5°	528.6	526.0	526.0	526.9
15°	502.9	501.7	498.5	499.4
17.5°	476.5	475.4	471.0	475.4
20°	451.9	449.6	447.5	447.3
22.5°	428.5	426.5	426.8	424.4
25°	409.8	407.7	407.2	405.7
27.5°	394.6	393.4	392.2	392.8
30°	380.8	380.5	379.9	379.9
32.5°	369.4	369.4	370.0	370.0
35°	358.9	359.7	360.3	359.4
37.5°	349.5	350.1	351.0	351.8
40°	338.4	340.4	341.0	342.5
42.5°	327.8	330.2	331.9	331.9
45°	317.0	319.3	321.4	321.4
47.5°	305.9	309.1	311.1	311.4
50°	294.5	298.6	300.6	302.1
52.5°	283.3	287.4	290.4	290.9
55°	270.2	276.0	279.2	280.4
57.5°	258.5	263.7	267.2	268.1
60°	244.4	250.3	254.9	255.8
62.5°	230.1	236.2	240.3	242.9
65°	213.1	219.2	223.3	224.2
67.5°	195.2	201.7	204.3	206.1
70°	176.2	181.2	184.1	185.6
72.5°	154.5	159.8	163.3	163.3
75°	132.3	137.0	138.7	138.7
77.5°	109.2	111.8	114.2	114.7
80°	86.9	88.4	90.2	90.2
82.5°	64.1	65.3	67.0	66.7
85°	41.6	44.2	43.9	43.3
87.5°	23.4	23.7	24.6	25.2
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242649

CATALOG NUMBER: S124DRP-S575D930-X4F0-XX-UDD-A-W

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	16.35	17.91	16.72	18.23	18.54	17.26	18.82	17.63	19.14	19.45
	3H	17.83	19.24	18.21	19.57	19.93	18.63	20.04	19.01	20.36	20.72
	4H	18.37	19.70	18.77	20.04	20.42	19.10	20.42	19.50	20.77	21.15
	6H	18.73	19.96	19.15	20.32	20.71	19.41	20.63	19.82	21.00	21.39
	8H	18.83	20.00	19.26	20.39	20.79	19.49	20.65	19.91	21.04	21.44
	12H	18.89	20.01	19.32	20.39	20.82	19.53	20.65	19.96	21.03	21.46
4H	2H	17.51	18.83	17.91	19.18	19.56	17.95	19.27	18.35	19.62	20.00
	3H	19.04	20.14	19.45	20.54	20.94	19.66	20.76	20.07	21.16	21.56
	4H	19.63	20.62	20.06	21.04	21.48	20.24	21.24	20.68	21.65	22.09
	6H	20.06	20.92	20.51	21.37	21.82	20.64	21.51	21.10	21.95	22.41
	8H	20.18	20.99	20.64	21.43	21.90	20.75	21.56	21.21	22.00	22.47
	12H	20.26	20.98	20.74	21.46	21.93	20.81	21.54	21.29	22.01	22.48
8H	4H	20.08	20.90	20.55	21.34	21.81	20.56	21.37	21.02	21.81	22.28
	6H	20.59	21.26	21.09	21.75	22.23	21.09	21.76	21.58	22.25	22.73
	8H	20.76	21.36	21.27	21.87	22.36	21.25	21.85	21.76	22.36	22.85
	12H	20.88	21.42	21.39	21.91	22.47	21.36	21.90	21.87	22.39	22.95
12H	4H	20.13	20.86	20.61	21.34	21.81	20.59	21.32	21.07	21.79	22.26
	6H	20.66	21.27	21.18	21.78	22.26	21.14	21.75	21.66	22.26	22.74
	8H	20.89	21.42	21.39	21.91	22.47	21.36	21.90	21.87	22.39	22.95